



Please type a plus sign (+) inside this box → ☐

PTO/SB/06A (10-96)  
Approved for use through 10/31/99. OMB 0651-0031  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE  
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>Substitute for form 1449A/PTO</b> <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>				<b>Complete if Known</b>	
				Application Number	09/811,081
<b>Sheet</b> <b>1</b> <b>of</b> <b>11</b>				Filing Date	March 16, 2001
				First Named Inventor	Thomas W. Mossberg
				Group Art Unit	2872
				Examiner Name	AMARI, ALESSANDRO
				Attorney Docket Number	5455P001

U.S. PATENT DOCUMENTS

Exam. Initials	Cite No.	Document Number	Date	Name	Class	Sub-class	Filing Date (if appropriate)
ava	1	4,140,362	02/20/79	Tien	359	19	
ava	2	4,387,955	06/14/83	Ludman et al.	385	37	
ava	3	4,660,934	04/28/87	Akiba et al.	430	5	
ava	4	4,740,951	04/26/88	Lizet et al.	370	3	
ava	5	4,743,083	05/10/88	Schimpe	385	37	
ava	6	4,746,186	05/24/88	Nicia	385	14	
ava	7	4,773,063	09/20/88	Hunsperger et al.	359	130	
ava	8	4,786,133	11/22/88	Gidon et al.	385	37	
ava	9	4,824,193	04/25/89	Maeda et al.	359	34	
ava	10	4,834,474	05/30/89	George et al.	359	8	
ava	11	4,923,271	05/08/90	Henry et al.	359	130	
ava	12	4,938,553	07/03/90	Maerz et al.	385	14	
ava	13	5,107,359	04/21/92	Ohuchida	359	124	
ava	14	5,195,161	03/16/93	Adar et al.	385	129	
ava	15	5,357,591	10/18/94	Jiang et al.	385	37	
ava	16	5,450,511	09/12/95	Dragone	385	37	
ava	17	5,768,450	06/16/98	Bhagavatula	385	24	
ava	18	5,812,318	09/22/98	Babbitt et al.	359	559	
ava	19	5,830,622	11/03/98	Canning et al.	430	32	
ava	20	6,011,884	01/04/00	Dueck et al.	385	24	

FOREIGN PATENT DOCUMENTS

Exam. Initials	Cite No.	Document Number	Date	Country	Class	Sub-class	Translation Yes	No

Examiner Signature	Alessandro Amari	Date Considered	3/21/03
--------------------	------------------	-----------------	---------

**Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet

2

of

11

**Complete if Known**

Application Number	09/811,081
Filing Date	March 16, 2001
First Named Inventor	Thomas W. Mossberg
Group Art Unit	2872
Examiner Name	AMARI
Attorney Docket Number	5455P001

## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

[illegible]

Examiner  
Signature

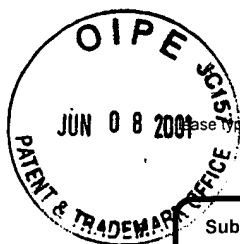
Alexandro Amari

Date	Considered
------	------------

3/21/03

**Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:** Assistant Commissioner for Patents, Washington, DC 20231.



Please type a plus sign (+) inside this box → ☐

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTO/SB/06A (10-96)  
Approved for use through 10/31/99. OMB 0651-0031  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

<b>Substitute for form 1449A/PTO</b> <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>				<b>Complete if Known</b>	
				Application Number	09/811,081
				Filing Date	March 16, 2001
				First Named Inventor	Thomas W. Mossberg
				Group Art Unit	2873
				Examiner Name	AMARI
				Attorney Docket Number	5455P001
Sheet	3	of	11		

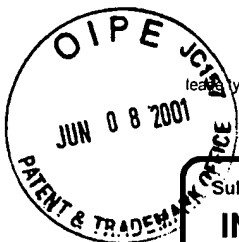
OTHER ART (Including Title, Author, Date, Pertinent Pages, etc.)

Exam. Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
AM	1	B.A. CAPRON, ET AL., Design and Performance of a Multiple Element Slab Waveguide Spectrograph for Multimode Fiber-Optic WDM Systems., Journal of LightWave Technology, Vol. 11 No. 12., December 1993., IEEE Log No.9211169, Pgs. 2009-2014
AM	2	R.J. DERI, ET AL., Quantitative Analysis of Integrated Optic Waveguide Spectrometers., IEEE Photonics Technology Letters, Vol. 6, No. 2, February 1994., Pgs.242-244.
AM	3	A. GRUNNET-JEPSEN, ET AL., Fibre Bragg grating based spectral encoder/decoder for lightwave CDMA. Electronics Letters Vol. 35., No. 13., June 24th, 1999., Pgs. 1096-1097
AM	4	P.PADDON AND JEFF F. YOUNG, Simple approach to coupling in textured planar waveguides, Optical Society of America 1998, Vol. 23, No. 19. Pgs. 1529-1531.
AM	5	C.K. MADSEN, ET AL., Planar Waveguide Optical Spectrum Analyzer Using a UV-Induced Grating, IEEE Journal of selected topics in quantum electronics, Vol. 4, No. 6, November 1998, Pgs. 925-929
AM	6	EMILIO GINI, ET AL., Polarization Independent InP WDM Multiplexer/Demultiplexer Module., Journal of Lightwave Technology, Vol. 16, No. 4., April 1998, Pgs. 625-630.
AM	7	ROBERT W. DAY, ET AL., Filter-Response Line Shapes of Resonant Waveguide Gratings., Journal of Lightwave Technology. Vol. 14, No. 8, August 1996., Pgs. 1815-1824.
AM	8	K.A. MCGREER., Tunable Planar Concave Grating Demultiplexer., IEEE Photonics Technology Letters, Vol. 8. No. 4, April 1996., Pgs. 551-553.
AM	9	SUNING TANG, ET AL., A Novel Wavelength-Division-Demultiplexer with Optical In-Plane to Surface-Normal Conversion., IEEE Photonics Technology Letters, Vol. 7, No. 8, August 1995
AM	10	K.A. MCGREER., Diffraction from Concave Gratings in Planar Waveguides., IEEE Photonics Technology Letters, Vol. 7. No. 3, March 1995., Pgs. 324-326.
AM	11	HIROKAZU TAKENOUCI, ET AL., Analysis of optical-signal processing using an arrayed-waveguide grating., Optics Express, Vol. 6, No. 6, March 13, 2000., Pgs. 124-135.
AM	12	A.GRUNNET-JEPSEN, ET AL., Demonstration of All-Fiber Sparse Lightwave CDMA Based on Temporal Phase Encoding., Photonics Technology Letters, Vol. 11 No. 10, Oct. 1999.

Examiner Signature	Alexander V. Amari	Date Considered	3/21/03
--------------------	--------------------	-----------------	---------

**Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



leave type a plus sign (+) inside this box → ☐

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTO/SB/06A (10-96)  
Approved for use through 10/31/99. OMB 0651-0031  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO				<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				Application Number	09/811,081
				Filing Date	March 16, 2001
				First Named Inventor	Thomas W. Mossberg
				Group Art Unit	2873
				Examiner Name	AMV81
Sheet	4	of	11	Attorney Docket Number	5455P001

OTHER ART (Including Title, Author, Date, Pertinent Pages, etc.)

Exam. Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
AVH	13	RANDALL BABBITT, ET AL., Optical waveform processing and routing with structured surface gratings., Optics Communications 148, 1998., Pgs. 23-26.
AVH	14	GERALD A. BRIGHAM, ET AL., Analysis of scattering from large planar gratings of compliant cylindrical shells., Acoust Society of America, Vol. 61, No. 1, January 1977. pgs. 48-59.
AVH	15	T.KUROKAWA, ET AL., Time-space-conversion optical signal processing using arrayed-waveguide grating., Electronics Letters Vol. 33, No. 22, October 23, 1997. Pgs. 1890-1891.
AVH	16	AASMUND Sv. SUDBO, ET AL., Reflectivity of Integrated Optical Filters Based on Elliptic Bragg Reflectors., Journal of Lightwave Technology Vol. 8, No. 6, June 1990. Pgs. 998-1006.
AVH	17	CHARLES H. HENRY., Four-Channel Wavelength Division Multiplexers and Bandpass Filters Based on Elliptical Bragg Reflectors., Journal of Lightwave Technology Vol. 8. No. 5, May 1990 IEEE., Pgs. 748-755.
AVH	18	E.M. KOONTZ, ET AL., Preservation of rectangular-patterned InP gratings overgrown by gas source molecular beam epitaxy., Appl. Phys. Lett Vol. 71, No. 10, September 1997., pgs. 1400-1402.
AVH	19	SEOK HO SONG, ET AL., Focusing-grating-coupler arrays for uniform and efficient signal distribution in a backboard optical interconnect., Optical Society of America 1995., Applied Optics Vol. 34, No. 26., September 10, 1995., Pgs. 5913-5919.
AVH	20	JOHN C. BRAZAS, ET AL., Analysis of input-grating couplers having finite lengths., Applied Optics Vol. 34, No. 19., July 1, 1995., Pgs. 3786-3792.
AVH	21	KEITH A. BATES, ET AL., Gaussian beams from variable groove depth grating couplers in planar waveguides., Applied Optics Vol. 32, No. 12., April 20, 1993., Pgs. 2112-2116.
AVH	22	S.S. WANG, ET AL., Theory and applications of guided-mode resonance filters., Applied Optics Vol. 32 No. 14., May 10, 1993., Pgs. 2606-2613.
AVH	23	R. MAGNUSSON, ET AL., New Principle for optical filters., American Institute of Physics 1992., Appl. Phys. Lett. Vol. 61, No. 9., August 31, 1992., Pgs. 1022-1024.
AVH	24	S.M. OJHA, ET AL., Demonstration of low loss integrated InGaAsP/InP demultiplexer device with low polarisation sensitivity., Electronics Letter Vol. 29, No. 9., April 29, 1993.

Examiner Signature	<i>Alexander Amari</i>	Date Considered	3/21/03
--------------------	------------------------	-----------------	---------

**Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Form PTO-1449  
(REV. 8-83)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

**05455.P001**

SERIAL NO.

**09/811,081**

APPLICANT

**Thomas W. Mossberg**

FILING DATE

**03/16/01**

GROUP

**2872**

## INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>ava</i>	LIFENG LI., Analysis of planar waveguide grating couplers with double surface corrugations of identical period., 1995 Elsevier Science B.V., Optics Communications 114., Pgs. 406-412.
<i>ava</i>	J.B.D. SOOLE, ET AL., High speed monolithic WDM detector for 1.5 um fibre band., Electronics Letters Vol. 31., No.15., July 20, 1995., Pgs. 1276-1277.
<i>ava</i>	J.T. RANTALA, ET AL., Sol-gel hybrid glass diffractive elements by direct electron-beam exposure., Electronics Letters Vol. 34., No. 5., March 5, 1998., Pgs. 455-456.

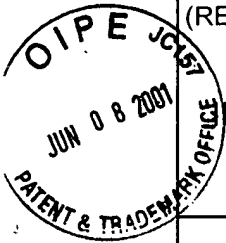
EXAMINER

*Alessandro Amari*

DATE CONSIDERED

*3/21/03*

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Form PTO-1449  
(REV. 8-83)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

**05455.P001**

SERIAL NO.

**09/811,081**

APPLICANT

**Thomas W. Mossberg**

FILING DATE

**03/16/01**

GROUP

**2872**

## INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>AVU</i>	M.A. COWIN, ET AL., Compact polymeric wavelength division multiplexer., Electronics Letters Vol. 35., No. 13., June 24, 1999., Pgs. 1074-1076.
<i>AV4</i>	J. CANNING, ET AL., Grating structures with phase mask period in silica-on-silicon planar waveguides., 1999 Elsevier Science B.V., Optics Communications 171., Pgs. 213-217.
<i>AV4</i>	P.K. TIEN, ET AL., Use of concentric-arc grating as a thin-film spectrograph for guided waves., 1980 American Institute of Physics., Pgs. 524-525.

EXAMINER

*Alexander Amari*

DATE CONSIDERED

*3/21/03*

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.





Form PTO-1449  
(REV. 8-83)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

**05455.P001**

SERIAL NO.

**09/811,081**

APPLICANT

**Thomas W. Mossberg**

FILING DATE

**03/16/01**

GROUP

**2872**

## INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>AV4</i>	IVAN A. AVRUTSKY, ET AL., Multiwavelength diffraction and apodization using binary superimposed gratings., IEEE Photonics Technology Letters, Vol. 10, No. 6, June 1998., Pgs. 839-841.
<i>am</i>	A.T. ALAVIE, ET AL., A Multiplexed bragg grating fiber laser sensor system., IEEE Photonics Technology Letters, Vol. 5, No. 9, September 1993., Pgs. 1112-1114.
<i>am</i>	XIAOLI FU, ET AL., 1x8 supergrating wavelength-division demultiplexer in a silica planar waveguide., 1997 Optical Society of America., Optics Letters Vol. 22, No. 21., Pgs. 1627-1629

EXAMINER

*Abraham Amur*

DATE CONSIDERED

*3/21/03*

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.







Form PTO-1449  
(REV. 8-83)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

**05455.P001**

SERIAL NO.

**09/811,081**

APPLICANT

**Thomas W. Mossberg**

FILING DATE

**03/16/01**

GROUP

2872

## INFORMATION DISCLOSURE CITATION

*(Use several sheets if necessary)*

## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
					YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

an	LOUAY ELDADA, ET AL., Dispersive properties of planar polymer bragg gratings., IEEE Photonics Technology Letters, Vol. 12, No. 7, July 7, 2000., Pgs.819-821.
an	RAY T. CHEN, ET AL., Guided-wave planar optical interconnects using highly multiplexed polymer waveguide holograms., Journal of Lightwave Technology, Vol. 10, No. 7, July 1992., Pgs. 888-897.
an	V. MINIER, ET AL., Diffraction characteristics of superimposed holographic gratings in planar optical wav guid s., IEEE Photonics Technology Letters, Vol. 4, No. 10, October 1992

EXAMINER

Alexander Arner

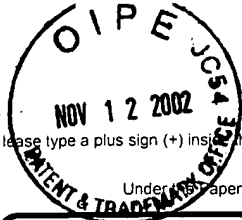
DATE CONSIDERED

3/21/03

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.







Please type a plus sign (+) inside this box



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTO/SB/08B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

<b>Substitute for form 1449A/PTO</b> <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>		<b>Complete if Known</b>	
		Application Number	09/811,081
		Filing Date	March 16, 2001
		First Named Inventor	Thomas W. Mossberg
		Group Art Unit	2872
		Examiner Name	Amari, Alessandro V.
		Attorney Docket Number	5455P001
Sheet	2	of	2

OTHER ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
AM	6	SHOGO URA, ET AL., "Integrated Optic Wavelength Demultiplexer Using a Coplanar Grating Lens", Applied Optics, March 20, 1990, pp. 1369-1373, Vol. 29, No. 9, Optical Society of America, New York, USA	
CWA	7	RAY T. CHEN, ET AL., "Ten Channel Single-Mode Wavelength Division Demultiplexer in Near IR", Integrated Optical Circuits, September 3, 1991, pp. 134-142, Vol. 1583, The International Society for Optical Engineering, Boston, Massachusetts, USA	
AM	8	W. R. BABBIT, ET AL., "Spatial Routing of Optical Beams Through Time-Domain Spatial-Spectral Filtering", Optics Letters, April 15, 1995, pp. 910-912, Vol. 20, No. 8, Optical Society of America, USA	
CWA	9	T. W. MOSSBERG, "Planar Holographic Optical Processing Devices", Optics Letters, April 1, 2001, pp. 414-416, Vol. 26, No. 7, Optical Society of America, USA	

Examiner Signature	<i>Alessandro Amari</i>	Date Considered	3/21/03
--------------------	-------------------------	-----------------	---------

**Examiner:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

<sup>1</sup>Unique citation designation number. <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

**Burden Hour Statement:** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.